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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/711,862 | 10/11/2004 | Mu-Shan Liao | 13718-US-PA | 5861 |
| 31561 7590 09/24/2007 JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN | | | EXAMINER WILLIS, RANDAL L | |
| | | | ART UNIT 2629 | PAPER NUMBER |
| | | | NOTIFICATION DATE 09/24/2007 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

| | | | |
|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 10/711,862 | Applicant(s) LIAO ET AL. | |
| | Examiner Randal L. Willis | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to arguments and amendments in application No. 10/711,862 filed June 06, 2007. Claims 1-8 are pending and have been examined.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 7/24/07 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Arguments

3. Applicant's arguments filed 6/06/2007 have been fully considered but they are not persuasive. For claim 1, Applicant argues that the combination of Ha and Moon has no reasonable expectation of success. However, it is well within the bounds of one of ordinary skill in the art to add an analyzer into an already existing device for the purpose of added functionality.

Applicant also argues that the modification would render the prior art unsatisfactory, however having added functionality in a display, such as user being able to determine which function should be employed, are also within the knowledge of a person of ordinary skill in the art, and would in no means make either art unsatisfactory.

Arguments made for claim 5 are mute in view of new rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha 2004/0113923 in view of Moon 2002/0180680.

Apropos claim 1, Ha teaches:

A dynamic level-adjustment compensation circuit suited for compensating a dynamic image signal (digital data input signal [0007] lines 10-12) input to a display device ([0014]), wherein said dynamic image signal in different frame times has different gray-level distributions (Inherent in the input signal for a EL or LCD display) , the circuit comprising:

an analyzing unit (control block producing signal M, [0038] lines 6-8) and output an analysis signal according to the analysis result ([0038] lines 6-8);

a plurality of gamma voltage generators (Gamma set generators 30, 32 and 34 Fig. 4), each of which produces a gamma voltage determined by a gamma characteristic curve ([0036] lines 10-15); and

a selector (38, Fig. 4) electrically connected to said analyzing unit (Receives signal M, Fig. 4) and said gamma voltage generators (See connections between Gamma set generators and 38, Fig. 4), wherein said selector is suited for selecting one of said gamma voltage generators ([0043] lines 1-6) according to said analysis signal and said selected gamma voltage generator outputs said corresponding gamma voltage ([0038] lines 1-4).

However Ha fails to explicitly teach:

Analyzing the gray-level distribution of said dynamic image signal and outputting the result.

In the same field of gamma correction for display devices, Moon teaches a system and method of analyzing a image signal to determine the brightness levels of the gray scales signals ([0053] lines 1-5) and then depending upon that determination result, changing the gamma characteristic curve used ([0055]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the control unit of Ha to include a brightness determination unit as taught by Moon that would enable Ha's selector to pick a gamma voltage set based not only on ambient light but the screen brightness so contrast is improved.

Apropos claim 2, Ha and Moon teach:

The circuit of Claim 1, wherein said analyzing unit comprises an application specific integrated circuit (The brightness determination circuit of Moon would be an IC in the control block of Ha).

Apropos claim 3, Ha teaches:

The circuit of Claim 1 further comprising a plurality of switch units (Sw1, Sw2 and Sw3, shown in selectors such as 82, Fig. 6) electrically connected to said selector (38, Fig. 4) and said gamma voltage generators (30, Fig. 4),

said selector controlling said switch units kept in an open mode or in a close mode (Nature of switches to be either open or closed).

Apropos claim 4, Ha teaches:

The circuit of Claim 1, wherein a number of said gamma voltage generators is at least three (Four generators shown in Fig. 4),

However Ha doesn't explicitly teach:

one of said gamma voltage generators having the gamma characteristic curve with a gamma value of 2.0, another one of said gamma voltage generators having the gamma characteristic curve with a gamma value of 2.2, the other one of said gamma voltage generators having the gamma characteristic curve with a gamma value of 2.4.

In the same field of gamma correction for display devices, Moon teaches a middle gray scale having a gamma of 2.2 and that the gamma should be adjusted up or down for brighter or darker displays ([0055]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to insure that of the various gamma generators of Ha, one would be able to produce a set with a gamma value of 2.2, as well as others that would have values around 2.2, such as 2.0 and 2.4 in order to provide a gamma curve that provides good contrast for the screen brightness to be displayed.

7. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon 2002/0180680 in view of Ha 2004/0113923.

Apropos claim 5, Moon teaches:

A dynamic level-adjustment compensation method (Title)suited to compensate a dynamic image signal input to a display (100, Fig. 2), wherein said dynamic image signal in different frame periods has different gray- level distributions ([0053], lines 1-5), the method comprising:

step (a): analyzing the gray-level distribution of said dynamic image signal ([0053] lines 1-5)and outputting an analysis signal ([0053] lines 5-8) according to an analysis result;

step (b): selecting a gamma characteristic curve according to said analysis signal ([0054] lines 1-3); and

step (c): outputting a gamma voltage ([0054] lines 3-6)according to said selected gamma characteristic curve.

However Moon fails to explicitly teach using one from a plurality of gamma voltage generators, to provide the gamma characteristic curve.

In the same field of gamma correction for display devices, Moon shows a apparatus that uses a plurality of gamma voltage generators to switch

between different gamma characteristic curves (Multiple gamma set generators shown in Fig. 4).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the gamma generation unit of Moons device, with the multiple gamma voltage generators of Ha's to obtain the predictable result of providing the capacity to select among multiple gamma characteristic curves.

Apropos claim 6, Moon teaches:

The method of Claim 5, wherein analyzing the gray-level distribution of said dynamic image signal is performed by an application specific integrated circuit (unit 210 is application specific, Fig. 2).

Apropos claim 7, Moon teaches:

The method of Claim 5, further comprising repeating steps (a), (b) and (c) in a next frame time ([0053] states screen brightness determined upon RGB gray scale signals from picture source, since RGB signals are new for each frame, the determination is inherently done each frame).

Apropos claim 8, Moon teaches:

The method of Claim 5, wherein the step of selecting a gamma characteristic curve is made from three gamma characteristic curves with gamma values around 2.2 ([0055] lists gamma curves having gamma value of 2.2 and those ranges lower and higher for different screen brightness's).

However Moon fails to explicitly state having two other gamma curves of values 2.0 and 2.4.

It would have been obvious to one of ordinary skill in the art at the time of the invention to supply gamma curves of around the 2.2 value, such as 2.0 and 2.4 as possible gamma curves to be used in different screen brightness levels in order to provide good contrast for the display.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randal L. Willis whose telephone number is (571) 270-1461. The examiner can normally be reached on Monday to Friday from 7:30am to 5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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RLW

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", with a large, sweeping flourish extending from the end of the signature.